



US007187407B2

(12) **United States Patent**  
**Kanehiro et al.**

(10) **Patent No.:** **US 7,187,407 B2**  
(45) **Date of Patent:** **Mar. 6, 2007**

(54) **CONTROL SYSTEM FOR IMAGE FILE**

6,765,612 B1 \* 7/2004 Anderson et al. .... 348/231.2

6,886,056 B2 \* 4/2005 Ohmura ..... 710/62

2002/0191079 A1 \* 12/2002 Kobayashi et al. .... 348/207.1

(75) Inventors: **Makoto Kanehiro**, Tokyo (JP); **Koji Oka**, Tokyo (JP); **Shigekazu Tsuji**, Tokyo (JP)

#### FOREIGN PATENT DOCUMENTS

(73) Assignee: **Ricoh Company, Ltd.**, Tokyo (JP)

JP 11-234615 8/1999  
JP 2001-69296 3/2001

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 745 days.

#### OTHER PUBLICATIONS

U.S. Appl. No. 10/892,307, filed Jul. 16, 2004, Oka.

U.S. Appl. No. 11/060,480, filed Feb. 18, 2005, Mitekura et al.

(21) Appl. No.: **10/393,990**

\* cited by examiner

(22) Filed: **Mar. 24, 2003**

*Primary Examiner*—Ngoc-Yen Vu

*Assistant Examiner*—Gary C. Vieaux

(65) **Prior Publication Data**

US 2003/0234877 A1 Dec. 25, 2003

(74) *Attorney, Agent, or Firm*—Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

(30) **Foreign Application Priority Data**

Mar. 22, 2002 (JP) ..... 2002-080263

Mar. 19, 2003 (JP) ..... 2003-076423

(57) **ABSTRACT**

(51) **Int. Cl.**  
**H04N 5/76** (2006.01)

(52) **U.S. Cl.** ..... **348/231.3**; 348/207.1;  
348/231.2; 348/231.6; 348/231.9

(58) **Field of Classification Search** ..... 348/231.2,  
348/231.3, 207.1, 231.6, 231.9  
See application file for complete search history.

(56) **References Cited**

#### U.S. PATENT DOCUMENTS

5,521,335 A 5/1996 Oka  
5,745,688 A 4/1998 Oka  
5,760,345 A 6/1998 Oka  
5,835,081 A 11/1998 Oka  
6,438,320 B1 \* 8/2002 Hatanaka ..... 386/117  
6,445,460 B1 \* 9/2002 Pavley ..... 358/1.15  
6,628,325 B1 \* 9/2003 Steinberg et al. .... 348/211.1

A control system for an image file eliminating saving of an overlapped image data part and saving files in a short time and in a power-saving manner. When a digital camera and a personal computer are connected with each other for data communication, the system compares record unit information to identify an image file that the digital camera has with record unit information to identify an image file that the personal computer has, and transfers to save the image file, which includes the record unit information that the digital camera has and the personal computer does not have, from the digital camera to the personal computer. After completing transfer of the image file from the digital camera to the personal computer, the personal computer generates record unit information newer than the record unit information of the acquired image file and transmits the newer record unit information to the digital camera, which can be recorded in the header of the image file newly photographed by the digital camera.

**9 Claims, 16 Drawing Sheets**

